



Repeater: NØDX 145.190 MHz (Input 144.590 / Tone 192.8 Hz)



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## The Eastern Iowa DX Bulletin

Number 253, December 20, 2024

**Craig Fastenow, KØCF, Editor**

This bulletin is a compilation of **currently active** DX operations (or those that will become active within the current week) from recent issues of the three DX bulletins listed below and other sources. Credit for the source is given at the end of each article.

Articles are ordered by the entity's callsign prefix from the *ARRL DXCC Entities List*. Callsigns used are in **bold** with dates of operation highlighted in **red**. Clickable links are provided for QSL and other information wherever possible. Note that articles may be edited for grammar, language, style and accuracy and will remain in *The Bulletin* while active; articles that are announcements of ongoing operations, or that have no specified end date, will be removed after three weeks.

Also included is a [Propagation](#) section, updated daily; and a [Contest Calendar](#) of upcoming popular contests.

DX News items are courtesy of:

The ARRL DX Bulletin

The bulletin is available at <http://www.arrl.org>

425 DX News, A.R.I. DX Bulletin (425DXN)

Edited by Mauro Pregliasco, I1JQJ & Valeria Pregliasco, IK1ADH

425 DX News Home Page: <https://www.425dxn.org/>

425 DX News Google Group: <https://groups.google.com/g/425eng>

DX Newsletter (DXNL)

Edited by Andreas Salder, DK5ON

A weekly service of DARC Committee "DX", <http://www.darcdxhf.de>

Ohio-Penn DX Bulletin (OPDX)

Edited by Tedd Mirgliotta, KB8NW. Although OPDX is no longer published as a weekly bulletin, Tedd still sends DX news emails.

We will occasionally publish some of them.

Propagation data is from:

National Oceanic and Atmospheric Administration's

[Space Weather Prediction Center](#)

Dr. Tony Phillips' [SpaceWeather.com](http://SpaceWeather.com), used by permission

Contest data courtesy of the [WA7BNM Contest Calendar](#)



### Solar-Terrestrial Data

21 Dec 2024 1811 GMT  
 SFI: 184 SN: 147  
 A-Index: 13  
 K-Index: 2  
 X-Ray: C2.2  
 304A: 162.6 @ SEM  
 Ptn Flx: 33  
 Elc Flx: 13000  
 Aurora: 3/n=1.99  
 Mag (Bz): -2.5  
 Solar Wind: 547.4  
 Geomag Field QUIET  
 Sig Noise Lvl S1-S2  
 Current Solar Image



<http://www.norbh.com>  
 Copyright Paul L. Herrman 2023

## DX News

**3D2, FIJI.** After his New Caledonia operation, Gerhard, OE3GEA will be QRV as **3D2GE** from Nadi (OC-016) and Nacula (OC-156) from **December 25th to January 7th**. Activity will be holiday style on 30 to 10 meters using only CW. QSL to [OE3GEA](#).

-[ARRL DX Bulletin # 47 December 19, 2024] (1220-0110)

**4X, ISRAEL.** To celebrate the Jewish holiday of Hanukkah, the Israel Association of Radio Communication (formerly known as Israel Amateur Radio Club) will be running special event stations

**4X8NER** and **4Z8NER** from **December 25th to January 2nd**. A certificate will be available:

<https://tools.iarc.org/chanukah24/>. QSL via LoTW, eQSL, or via [4Z5MU](#).

-[425DXN # 1754 December 14, 2024] (1220-0103)

**4X, ISRAEL**. In anticipation of Christmas, special event stations **4X8X** from the Latrun Monastery and **4X9X** from the Yardenit Baptismal Site will be active on **December 6th to 8th**. They will be followed by **4X7X** from the Abbey of the Dormition on **December 20th to 22nd**. A certificate will be available:

<https://www.iarc.org/xmas2024>. QSL all calls via [4X6ZM](#).

-[425DXN # 1752 November 30, 2024] (1206-1227)

**5R, MADAGASCAR**. Eric, F6ICX is active again as **5R8IC** from Sainte-Marie Island (AF-090), Madagascar **until the end of the year**. He will operate mainly CW on 40-10 meters; during the last two weeks of December he will also be QRV on the QO-100 satellite. QSL via LoTW, [ClubLog's OQRS](#), or via [F6ICX](#).

-[425DXN # 1742 September 21, 2024] (0927-0103)

**9A, CROATIA**. Promoting IARU Region 1's Program for Disabled Radio Amateurs, members of the Croatian Amateur Radio Association (HRS) will activate special call signs **9A24PDRA**, **9A24PD** and **9A24D** starting on **December 3rd** (the International Day of Persons with Disabilities) **until the end of the year**. QSOs will be uploaded to LoTW, ClubLog and QRZ Logbook.

-[425DXN # 1753 December 7, 2024] (1206-1227)

**A4, OMAN**. Special event station **A43QAT** is QRV to mark Qatar's National Day. QSL via [EC6DX](#).

-[ARRL DX Bulletin # 46 December 12, 2024] (1213-0103)

**CE9, ANTARCTICA**. Oleg ZS1ANF (ex UA1PBA) will be active during his spare time as **ZS7ANF** from Wolf's Fang Runway (AN-016). QRV mostly on CW on 40-10m **until February 2025**. QSL via [DL5EBE](#) or [RK1PWA](#), LoTW.

-[DXNL # 2436 December 11, 2024] (1213-0103)

**CN, MOROCCO**. Ralf, DB4REB will be active as **CN2REB** while vacationing in Morocco from **November 30th to January 30, 2025**. He plans to operate CW, FT8 and SSB on various bands from Agadir and some POTA sites along the coast. See <https://www.qrz.com/db/CN2REB> for updates. QSL via eQSL, or [DB4REB](#).

-[425DXN # 1751 November 23, 2024] (1129-0131)

**DU, PHILIPPINES**. Hannes, OE1SGU/OE3SGU will be active as **DU1OE** from Luzon Island (OC-042), Philippines on **December 10th-27th**. He will be QRV on 40-6 meters all modes. QSL via [ClubLog's OQRS](#), LoTW and eQSL.

-[425DXN # 1753 December 7, 2024] (1206-1227)

**DXCC TOP TWENTY**. Here are the top 20 entities on ClubLog's "DXCC Most Wanted" list as of December 19, 2024:

1. P5	DPRK (North Korea)	11. ZS8	Prince Edward & Marion Islands
2. BS7H	Scarborough Reef	12. KH4	Midway Island
3. CE0X	San Felix Islands	13. VK0M	Macquarie Island
4. BV9P	Pratas Island	14. PY0S	Saint Peter And Paul Rocks
5. KH7K	Kure Island	15. KP5	Desecheo Island
6. KH3	Johnston Island	16. VP0S	South Sandwich Islands
7. 3Y/P	Peter 1 Island	17. ZL9	New Zealand Subantarctic Islands
8. FT5/X	Kerguelen Island	18. FK/C	Chesterfield Islands
9. YV0	Aves Island	19. VK0H	Heard Island
10. 3Y/B	Bouvet Island	20. FT/T	Tromelin Island

For the complete list, see <https://clublog.org/mostwanted.php>

-[KØCF December 20, 2024] (1220-0110)

**E7, BOSNIA-HERZEGOVINA**. Special event station **E71YOTA** is QRV during the **month of December** during the Youth On The Air operating event. QSL via [ClubLog's OQRS](#).

-[ARRL DX Bulletin # 45 December 5, 2024] (1206-0103)

**EA, SPAIN**. The HamRadioDX.es club runs a Christmas special event **until December 25th** with the call sign **EG7FN**, including short-term awards. For more information see [EG7FN](#).

-[DXNL # 2436 December 11, 2024] (1213-1227)

**FK, NEW CALEDONIA.** Gerhard, OE3GEA is QRV as **TX24HAID** from Noumea (OC-032) **until December 25th**. Activity is holiday style on 30 to 10 meters using only CW. QSL to [OE3GEA](#).

-[ARRL DX Bulletin # 47 December 19, 2024] (1220-1227)

**FO, FRENCH POLYNESIA.** Hardy, DL7JLL is QRV as **FO/DL7JLL** from Mangareva Island (OC-063) **until January 15th**. Activity is on 20, 15, and 10 meters using SSB. QSL to [DL7JLL](#).

-[ARRL DX Bulletin # 47 December 19, 2024] (1220-0117)

**FR, REUNION I.** Thomas, DJ2TG is QRV as **FR/DJ2TG** **until December 23rd**. Activity is on 30 meters and up using SSB and FT8. QSL to [DJ2TG](#).

-[ARRL DX Bulletin # 46 December 12, 2024] (1213-0103)

**FS, SAINT MARTIN.** Oleh, UR5BCP will be QRV as **FS/UR5BCP** from **December 26th to January 2nd**. Activity will be on 40 to 15 meters using CW. This might include activity from Sint Maarten if he obtains a license. QSL via [KD7WPJ](#).

-[ARRL DX Bulletin # 47 December 19, 2024] (1220-0103)

**FY, FRENCH GUIANA.** Joe, OZØJ, is QRV as **TOØJ** **until December 31st** on 80-10m (FT8, some CW and SSB) with vertical antennas. For more information see: <https://to0j.oz0j.dk>. QSL via [ClubLog's OQRS](#), LoTW or via [OZØJ](#).

-[DXNL # 2437 December 18, 2024] (1220-0103)

**HL, SOUTH KOREA.** Special event station **HLØYOTA** is QRV during the **month of December** during the Youth On The Air operating event. QSL via [ClubLog's OQRS](#).

-[ARRL DX Bulletin # 45 December 5, 2024] (1206-0103)

**HZ, SAUDI ARABIA.** Special event station **HZ1QATAR** is QRV to mark Qatar's National Day. QSL via [EC6DX](#).

-[ARRL DX Bulletin # 46 December 12, 2024] (1213-0103)

**I, ITALY.** The 4U1GSC Amateur Radio Club will use special callsign **4U3ØB** to mark the 30th anniversary of the United Nations Global Service Centre in Brindisi, Italy. Look for activity from **November 15th to December 31st**. QSL via [9A2AA](#).

-[425DXN # 1747 October 26, 2024] (1115-1227)

**I, ITALY.** Celebrating the 100th anniversary of the start of regular radio broadcasting in Italy (October 6, 1924), ARI local branches across Italy are using special callsigns until **December 29th**. The callsigns will be in the format **II#Rxyz** (e.g. II9RCAT for ARI Catania) and **IR#Rxyz** (e.g. IR1RVDB for ARI Valbormida). In addition, special event station **I1MRTV** will be active from the RAI Radio and Television Museum in Torino. Certificates and electronic QSLs will be available for download from the HamAward platform (direct link from each special callsign's qrz.com page).

-[425DXN # 1743 September 28, 2024] (0927-1227)

**J7, DOMINICA.** Team **J75K** (FM5WD, IK3ZQA and IV3JVJ) will be active from Dominica (NA-101) from **December 26th to January 4th**. They will operate SSB, CW and FT8/FT4 on 160-6 meters. See <https://j75k.jimdofree.com> for more information. Log search on ClubLog. QSL via LoTW, or direct to [IV3JVJ](#).

-[425DXN # 1753 December 7, 2024] (1220-0103)

**JD1/O, OGASAWARA.** Harry, JG7PSJ will be QRV as **JD1BMH** from Chichijima (AS-031) from **December 23rd to January 3rd**. Activity will be on 80 to 10 meters using CW, SSB, and RTTY. QSL direct to [JG7PSJ](#).

-[ARRL DX Bulletin # 47 December 19, 2024] (1220-0103)

**KH9, WAKE I.** Currently stationed on Wake Island (OC-053), Allen, KH7AL is QRV as **KH7AL/KH9** in his spare time. Next planned activities:

December 22nd +/- 20:00 UTC on 10m SSB

December 23rd +/- 08:00 UTC on 17m SSB

December 29th +/- 20:00 UTC on 17m SSB

December 30th +/- 08:00 UTC on 17m SSB

He keeps an "Activation Blog" and an "Upcoming" section on <https://sites.google.com/view/kh7al/>. QSL via [KH7AL](#).

-[425DXN # 1755 December 21, 2024] (1220-0103)

**LY, LITHUANIA.** Special callsign **LY24XMAS** will be active **throughout December**. LY2QT offers a commemorative coin for 10 QSOs with special event stations carrying an XMAS or HNY suffix; one QSO with LY24XMAS is obligatory and 5 Euro for covering postage; send your application to LY2QT, [ly2qt.wal@gmail.com](mailto:ly2qt.wal@gmail.com). QSL LY24XMAS via [LY2QT](#).

-[DXNL # 2435 December 4, 2024] (1206-0103)

**OE, AUSTRIA.** Special event station **OE65XMAS** is QRV **until January 6th**. QSL via bureau.

-[ARRL DX Bulletin # 47 December 19, 2024] (1220-0110)

**OH, FINLAND.** Once again Santa Radio, **OF9X** (Old Father Nine Xmas) will be active on **December 13th-31st** on 160-6 meters CW, SSB and FT8. QSL via Club Log's OQRS, or via OH2BH. Each operator will send his suffix as part of the report (e.g. 599BH for Martti, OH2BH). You can contact a maximum of 16 Santa operators on a variety of bands and modes, which makes up your Santa total score. This time the score card is reported on <https://www.qrz.com/db/OF9X>. The Santa Radio operators are:

Rami	OH2BCI (BCI)	Juha	OH2LQ (LQ)
Martti	OH2BH (BH)	Pekka	OH2TA (TA)
Davide	OH2BLS (BLS)	Henri	OH3JR (JR)
Era	OH2CV (CV)	Pauli	OH5BQ (BQ)
Arttu	OH2FB (FB)	Alex	OH5UY (UY)
Jorma	OH2KI (KI)	Reijo	OH7GGX (GGX)
Jyri	OH2KM (KM)	Tero	OH7WP (WP)
Arto	OH2KW (KW)	Esa	OH7WV (WV)

-[425DXN # 1754 December 14, 2024] (1213-0103)

**OH, FINLAND.** Celebrating the Christmas Holiday Season, the OH9A team is once again active as **OG1XMAS** on all bands and modes on **December 1st-24th**. QSL via LoTW (preferred), [ClubLog's OQRS](#), or [OH1NOA](#).

-[425DXN # 1753 December 7, 2024] (1206-1227)

**ON, BELGIUM.** The radio club Verviers (ON4GDV) commemorates the 80th anniversary of Belgium's liberation and the Battle of the Bulge until the end of the year with the callsign **OR8ØUSA**. QSL via [ON4GDV](#).

-[DXNL # 2436 December 11, 2024] (1213-0103)

**ON, BELGIUM.** Special event station **OQ24YOTA** is QRV during the **month of December** during the Youth On The Air operating event. QSL via [ClubLog's OQRS](#).

-[ARRL DX Bulletin # 45 December 5, 2024] (1206-0103)

**OZ, DENMARK.** Special callsign **OZ4ØØPOST** will be used by members of Experimenterende Danske Radioamatører to celebrate the 400th anniversary of the Royal Danish Post Office, established on December 24, 1624, under King Christian IV. Watch for activity from **December 24th to January 5th**. See <https://www.qrz.com/db/OZ400POST> for information about the Post Award. QSL via [ClubLog's OQRS](#) (preferred), or via the bureau to [OZ1ACB](#).

-[425DXN # 1755 December 21, 2024] (1220-0110)

**PA, NETHERLANDS.** Celebrating Christmas and the New Year, special callsign **PH24XMAS** will be active on **December 6th-28th**, followed by **PH25HNY** from **December 28th to January 5th**. Paper QSL cards will not be provided.

-[425DXN # 1752 November 30, 2024] (1206-0110)

**PA, NETHERLANDS.** Barry, PC1K will be active as **PC24XMAS** in **December**. A certificate will be downloadable from <https://pc1k.nl/xmas> "immediately after making a QSO". QSL via [PC1K](#), LoTW, or QRZ Logbook.

-[425DXN # 1752 November 30, 2024] (1129-0103)



**PA, NETHERLANDS.** Celebrating Christmas and the New Year, special callsigns **PA24XMAS**, **PD24ELF** and **PI24XMAS** will be active on **December 1st-31st**, while **PD25HNY** will be QRV from **December 24th until January 31st**. See <https://www.qrz.com/db/PI24XMAS> for a certificate. QSL cards will not be issued.

-[425DXN # 1751 November 23, 2024] (1129-0103)

**PACIFIC TOUR.** Reportedly, Gerhard, OE3GEA will be active holiday style from New Caledonia, Fiji, Vanuatu, Samoa, American Samoa and Hawaii from **December 20th to January 21st**:

December 20th-25th	<b>TX24HAID</b>	Noumea (OC-032)
December 25th-Jan. 7th	<b>3D2GE</b>	Nadi (OC-016)/Nacula (OC-156)
December 27th-30th	<b>YJ0GE</b>	Port Vila (OC-035)
January 9th-12th	<b>5W0GE</b>	Apia (OC-097)
January 12th-15th	<b>KH8/OE3GEA</b>	Pago Pago (OC-045)
January 18th-21st	<b>KH6/OE3GEA</b>	Hawaii

He will operate CW on 30-10 meters. QSL via [OE3GEA](#).

-[425DXN # 1754 December 14, 2024] (1220-0124)

**PACIFIC TRIP.** Hardy, DL7JLL will be active as **FO/DL7JLL** from Mangareva (OC-063), French Polynesia and as **VP6JLL** from Pitcairn Island (OC-044) from **December 18th to January 15th**. He will operate SSB only on 20, 15 and 10 meters. QSL via [DL7JLL](#).

-[425DXN # 1754 December 14, 2024] (1213-0117)

**PJ7, SINT MAARTEN.** Ed, N2HX, plans to put Sint Maarten (NA-105) on the air from **October 20th to December 27th** as **PJ7PL**, including the CQ WW DX SSB Contest (October 26th-27th), the CQ WW DX CW Contest (November 23rd-24th) and ARRL 10-Meter Contest (December 14th-15th). QSL via [N2HX](#).

-[DXNL # 2428 October 16, 2024] (1018-1227)

**PY, BRAZIL.** The Bicho do Mato DX Team celebrates its 10th anniversary with the callsign **ZV2BM** **throughout December**. QSL via bureau, LoTW, eQSL.

-[DXNL # 2435 December 4, 2024] (1206-0103)

**S5, SLOVENIA.** Special event station **S525PMC** will be active from **December 5th to January 5th** to promote the PMC Contest, sponsored by the Radio Club Slovenj Gradec (S59DCD). The International Association of Peace Messenger Cities was established in 1988 to recognize and encourage the role and responsibility cities have in creating a culture of peace. The PMC Contest, promoting contacts between stations located in the Peace Messenger Cities and the rest of the world, will be held on January 4th-5th. Complete information can be found on <https://www.s59dcd.si/index.php/sl/www-pmc/www-pmc-contest-rules>. QSL via eQSL.

-[425DXN # 1753 December 7, 2024] (1206-0103)

**SM, SWEDEN.** The still operational long wave transmitter at the Grimeton Radio Station, callsign SAQ, will be activated **on December 24th** to send its traditional Christmas message to the world on 17.2 kHz CW at 08:00 UTC. The Grimeton Radio Station has been inscribed on the UNESCO World Heritage list since 2004. As for the amateur bands, **SK6SAQ** will be QRV during the day on CW (3517, 7017, 14017 kHz) and SSB (3755 and 7140 kHz). More information can be found on <https://alexander.n.se/en/>. QSL [SK6SAQ](#) via the bureau.

-[425DXN # 1755 December 21, 2024] (1220-1227)

**SP, POLAND.** Celebrating Christmas and the New Year, special callsigns **HF0CLAUS** and **SP0CLAUS** will be active from **December 6th to January 6th**. QSL via the bureau, eQSL, or direct to Dariusz Florczyk, ul. Kozminska 35, 63-330 Dobrzyca, Poland.

Other special callsigns for the festive season include **3Z0XMAS** (Poland), **EG7FN** (Spain, **December 10th-25th**), **I12XMAS** (Italy, **November 29th-January 6th**), **LY24XMAS** (Lithuania, **December 1st-31st**), **OE65XMAS** (Austria, December 20th-January 6th), **OZ4XMAS** (Denmark), **PD2025HNY** (Netherlands, **December 23rd-31st**), **TM2024MC** (France), **VK6SANTA** (Australia, **December 1st-24th**), **YR8XMAS** (Romania, **December 1st-January 5th**). See their qrz.com pages for more information.

-[425DXN # 1753 December 7, 2024] (1206-0103)

**SU, EGYPT.** Special event station **SU8YOTA** is QRV during the **month of December** during the Youth On The Air operating event. QSL via [ClubLog's OQRS](#).

-[ARRL DX Bulletin # 45 December 5, 2024] (1206-0103)

**T32, EAST KIRIBATI.** The Rebel DX Group is QRV as **T32TTT** from Kiritimati (Christmas Island, OC-024), East Kiribati **until January 1st**. This is a 2-man activity, with planned operations on 160-6 meters CW (two stations), SSB (one station) and FT8/FT4 (as many as twelve stations). QSL via [ClubLog's OQRS](#) for LoTW and direct cards.

-[425DXN # 1755 December 21, 2024] (1220-0103)

**TJ, CAMEROON.** Thierry, TK1CX is QRV as **TJ/TK1CX** **until the end of February**. Activity is in his spare time on 20 to 10 meters using mostly FT8 and low power. QSL via LoTW, eQSL, or [EA5ZD](#).

-[ARRL DX Bulletin # 47 December 19, 2024] (1220-0228)

**VP6, PITCAIRN I.** Hardy, DL7JLL, signs **VP6JLL** from Pitcairn Island (OC-044) from **December 18th to January 15th**. QRV on 20, 15, and 10m with 50W and a wire antenna on SSB. QSL via [DL7JLL](#).

-[DXNL # 2437 December 18, 2024] (1220-0117)

**VU, INDIA.** Kaustav, VU2UUU is QRV with special call sign **AT2Ø25** **until January 15th** while studying winter propagation, and monitoring solar cycle conditions. Activity is on the HF bands using CW and SSB. QSL via operator's instructions.

-[ARRL DX Bulletin # 47 December 19, 2024] (1220-0117)

**YL, LATVIA.** Special event station **YL24YOTA** is QRV during the **month of December** during the Youth On The Air operating event. QSL via [ClubLog's OQRS](#).

-[ARRL DX Bulletin # 45 December 5, 2024] (1206-0103)

**ZA, ALBANIA.** Ben, ON6BW plans to be QRV as **ZA/ON6BW** from Durres **until December 22nd**. QSL to [ON6BW](#).

-[ARRL DX Bulletin # 47 December 19, 2024] (1220-1227)

**ZD7, ST. HELENA.** Derek, **ZD7CTO** has been active on 40 meters using FT8 between 0300 and 0400z. QSL direct to [ZD7CTO](#).

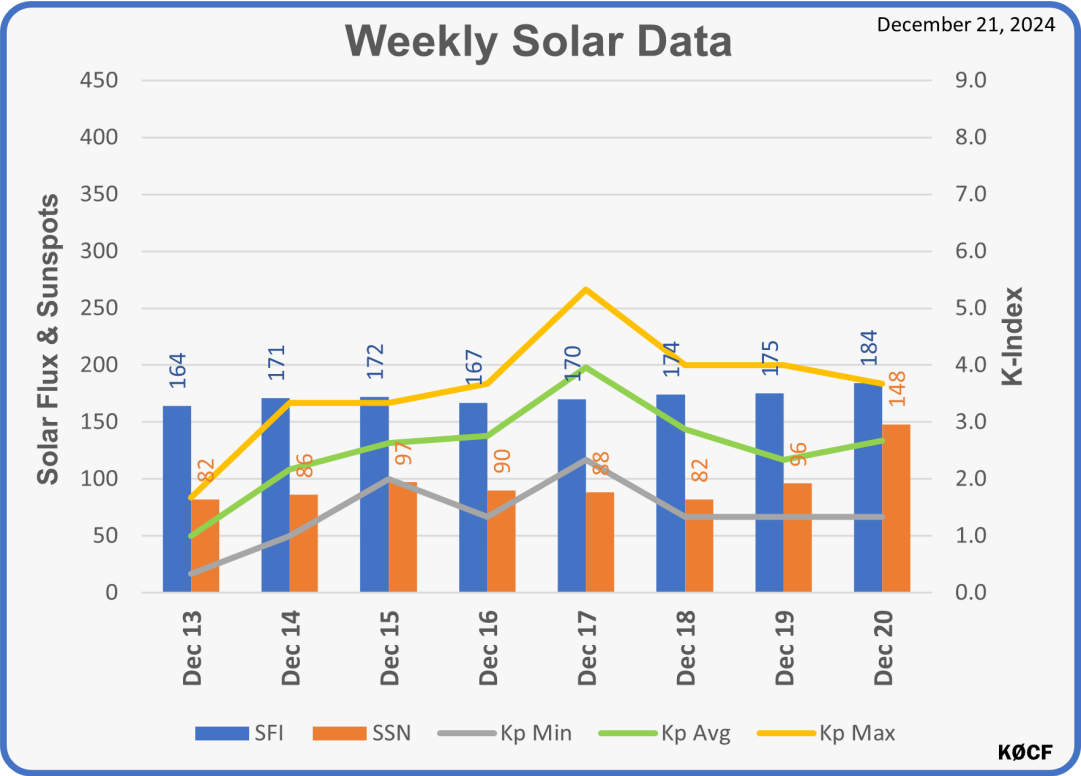
-[ARRL DX Bulletin # 46 December 12, 2024] (1213-0103)

**ZL, NEW ZEALAND.** Special event station **ZM1ØØDX** will be QRV from **September 29th to December 26th** to celebrate the very first trans-world QSO between Z4AA and G2SZ. Activity will be on 160 to 6 meters using all modes. In addition, special event station **ZL4AA** will also be active for this event. QSL via operators' instructions.

-[ARRL DX Bulletin # 36 September 26, 2024] (0927-1227)

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## Propagation (Updated daily)



The Weekly Solar Data chart plots Solar Flux Index (SFI), Sunspot number (SSN) and Planetary K-Index (Kp) for the past 8 days. With 8 Planetary K-index readings each day, only the minimum, average and maximum K-index values are plotted. **Note:** You may click [here](#) or on the chart above to see the same data for the past month.

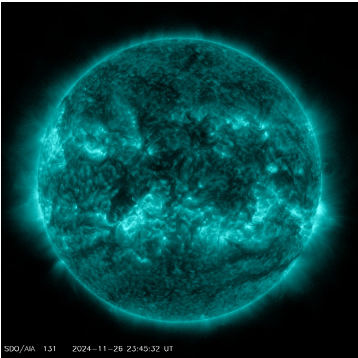
The Daily Solar Flux Index, Sunspot number, Planetary K-index, Solar Flux predictions and Solar Flare data used in this bulletin have been collected by KØCF from the U.S. Department of Commerce's NOAA Space Weather Prediction Center.

The propagation graphs above are the creations of KØCF and are unique in space weather reporting.

*Please Note: The graphs are high resolution .PNG files which you may view in greater detail using your browser's "zoom" feature. Alternatively, right click on the graph and select "Open Image in New Tab" to enlarge it, or "Save Image As..." to save it to your computer for further analysis.*

NASA's current view of the Sun at a wave-length of 131 Angstroms. This wavelength shows incredible solar detail.

Click [here](#) or on the image to view as a full screen 48-hour video loop. It is fascinating!



**Propagation Summary**

For the 8 day period from Friday, December 13th through yesterday, December 20th.

The average solar flux was 173, up 3 points from the previous week, with a weekly high of 184 on Friday, December 20th, following a low of 164 on December 13th.

The average sunspot count was 98, down by 2 from last week, peaking at 148 on Friday, December 20th after a weekly low of 82 on December 18th.

The Planetary K-index weekly average was 3.6 with a maximum of 5.3 on Tuesday, December 17th, resulting in minor geomagnetic storm conditions. Yesterday's K-index maximum was 3.7 with generally quiet conditions.

Solar flare activity since December 14th has been moderate with 7 major flares, the largest of which was an M 3.8 event on Thursday, December 19th.

Propagation Data

Major solar flares, Saturday, December 14th through 1457 UTC, December 21st.

#	Date	UTC	Mag.
1	Dec 21	0038	M 1.9
2	Dec 20	1118	M 2.5
3	Dec 20	0726	M 2.1
4	Dec 19	1900	M 1.7
5	Dec 19	1534	M 3.8
6	Dec 19	1038	M 1.6
7	Dec 15	2024	M 3.1

(NOAA's graph of recent flare activity: [GOES-X-Ray-Flux](#))

From the NOAA Space Weather Prediction Center, here are the probabilities of major solar flares and the predicted 10.7 cm Solar Flux for the next 3 days. NOAA updates this information daily.

Date	M-Flares	X-Flares	Solar Flux
Dec 21	65%	10%	180
Dec 22	60%	10%	175
Dec 23	60%	10%	175

Looking farther ahead, here is the NOAA Space Weather Prediction Center forecast of 10.7 cm radio flux and maximum Planetary K-index (Kp) for the next 12 days. This data is updated by NOAA every Monday (last updated on December 16, 2024).

Date	Flux	Kp
Dec 21	175	2
Dec 22	175	2
Dec 23	180	2
Dec 24	180	2

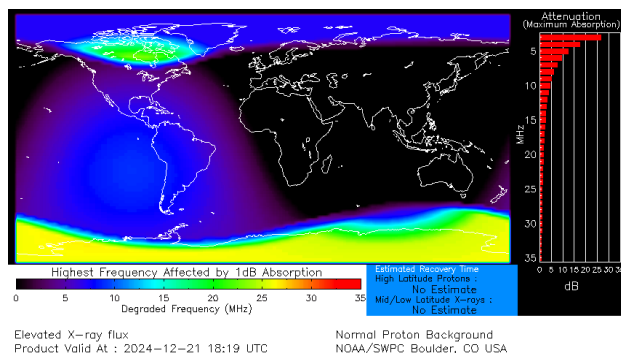
Date	Flux	Kp
Dec 25	180	2
Dec 26	180	2
Dec 27	180	2
Dec 28	185	2

Date	Flux	Kp
Dec 29	185	2
Dec 30	180	2
Dec 31	180	2
Jan 1	180	2

Global D Region Absorption

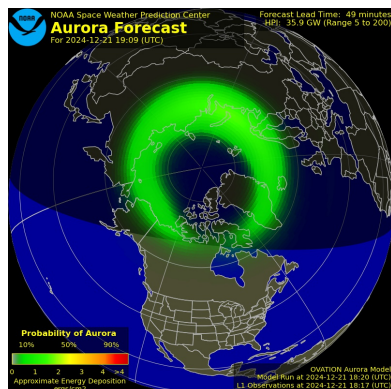
Conditions in the D-region of the ionosphere have a dramatic effect on HF communications. The D-Region Absorption map combines the effects of solar particles and photons. Yellow to red colors on the map depict increasing signal attenuation, where the bar chart at the right displays attenuation versus frequency. Click the thumbnail below for an animated map of D-Region Absorption:





## The Aurora Borealis

The aurora is not only beautiful to see but can have a profound impact on HF and VHF radio propagation. For the HF operator, auroras can result in a complete shut-down of propagation. However, on VHF, auroras present interesting DX possibilities. Beam antennas are very desirable and should be pointed north, towards the aurora. Signals are reflected by "back-scatter" and will be distorted with a rough buzz. SSB is the best voice mode to use, but copy can be difficult. CW will have a rough buzzy sound but be perfectly copyable. Click the thumbnail below for an animated map of aurora versus time:



## Highs for Cycle 25

Solar Flux: 336 on August 8, 2024.

Sunspots: 382 on August 10, 2024.

## Big Sunspot Alert

A large and complicated group of sunspots has just emerged over the sun's southeastern limb. The group includes at least 15 dark cores and sprawls across more than 250,000 km of the sun's surface. Amateur astronomers, point your solar telescopes [here](#).

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## Popular Propagation web sites

<https://prop.kc2g.com/> (Excellent Maximum Usable Frequency map)

NOAA <https://www.swpc.noaa.gov/>

<https://www.spaceweather.com/>

<https://www.solarham.com/>

<https://dx.qsl.net/propagation/>

## A Propagation Tutorial

The solar X-ray flux tracks solar activity and solar flares. Solar flux, which can vary from as low as 50 to as high as 300, influences the level of ionization in the F2 region of the ionosphere, providing a very good prediction of HF DX conditions. The higher the solar flux, the better conditions will be for the higher HF frequencies and even 6 meters. However, the levels need to be maintained for some days to allow ionization in the F2 layer to build up. A solar flux of 150 results in good HF band conditions, while levels of 200 and up can provide great conditions.

Large X-ray flares on the sun can increase the ionization of the D layer of the ionosphere (a lower

layer) on the sunlit side of the Earth, greatly attenuating or blocking HF radio transmissions for up to a half hour. Solar flares often produce Coronal Mass Ejections (CMEs) which, if Earth directed, can lead to geomagnetic storms. Some large flares are also accompanied by strong radio bursts that may interfere with other radio frequencies and cause problems for satellite communication and radio navigation (GPS).

The Planetary K-index is a measure of the magnitude of geomagnetic storms and is an excellent indicator of disturbances in the Earth's magnetic field. A level of 1 or 2 represents quiet geomagnetic conditions; a reading of 3 or 4 may cause some propagation deterioration; 5 and 6 are minor to moderate geomagnetic storms; and 7 to 9 are strong, severe, and extreme storm conditions. Strong geomagnetic storms can trigger Auroral displays and cause HF radio blackouts. Higher geomagnetic activity also has the adverse effect of lowering maximum usable frequencies, much like lower solar flux does.

For best conditions, the solar flux should be above 150 for a few days with the K index below 2. When these conditions are met, some good DX is likely!

-[Compiled from information on NOAA.gov and other sources]

## Contest Calendar

### Weekly Contests

Contest	Start UTC		End	Web Site
K1USN Slow Speed Test	Monday	0000Z	0100Z	<a href="#">Rules</a>
ICWC Medium Speed Test	Monday	1300Z	1400Z	<a href="#">Rules</a>
	Monday	1900Z	2000Z	
	Tuesday	0300Z	0400Z	
CWops Test (CWT)	Wednesday	1300Z	1400Z	<a href="#">Rules</a>
	Wednesday	1900Z	2000Z	
	Thursday	0300Z	0400Z	
	Thursday	0700Z	0800Z	
Weekly RTTY Test	Friday	0145Z	0215Z	<a href="#">Rules</a>
NCCC CW Sprint (NS)	Friday	0230Z	0300Z	<a href="#">Rules</a>

Note: Start Days are in UTC, e.g. Monday at 0000 UTC is Sunday at 7:00 PM in the Central Daylight Saving Time zone, or Sunday at 6:00 PM in the Central Standard Time zone.

### Full Calendar

Contest	Start		End		Web Site
OK DX RTTY Contest	Dec 21	0000Z	Dec 21	2400Z	<a href="#">Rules</a>
Croatian DX Contest	Dec 21	1400Z	Dec 22	1400Z	<a href="#">Rules</a>
ARRL Rookie Roundup, CW	Dec 22	1800Z	Dec 22	2359Z	<a href="#">Rules</a>
RAC Winter Contest	Dec 28	0000Z	Dec 28	2359Z	<a href="#">Rules</a>
Stew Perry Topband Challenge	Dec 28	1500Z	Dec 29	1500Z	<a href="#">Rules</a>
ARRL RTTY Roundup	Jan 4	1800Z	Jan 5	2400Z	<a href="#">Rules</a>
ARRL Kids Day	Jan 4	1800Z	Jan 4	2359Z	<a href="#">Rules</a>

YB DX Contest	Jan 11	0000Z	Jan 11	2359Z	<a href="#">Rules</a>
North American QSO Party, CW	Jan 11	1800Z	Jan 12	0600Z	<a href="#">Rules</a>
Hungarian DX Contest	Jan 18	1200Z	Jan 19	1200Z	<a href="#">Rules</a>
North American QSO Party, SSB	Jan 18	1800Z	Jan 19	0600Z	<a href="#">Rules</a>
ARRL January VHF Contest	Jan 18	1900Z	Jan 20	0359Z	<a href="#">Rules</a>
CQ 160-Meter Contest, CW	Jan 24	2200Z	Jan 26	2159Z	<a href="#">Rules</a>
BARTG RTTY Sprint	Jan 25	1200Z	Jan 26	1200Z	<a href="#">Rules</a>
Winter Field Day	Jan 25	1700Z	Jan 26	1700Z	<a href="#">Rules</a>
Vermont QSO Party	Feb 1	0000Z	Feb 2	2400Z	<a href="#">Rules</a>
10-10 Int. Winter Contest, SSB	Feb 1	0001Z	Feb 2	2359Z	<a href="#">Rules</a>
Mexico RTTY International Contest	Feb 1	1200Z	Feb 2	2359Z	<a href="#">Rules</a>
Minnesota QSO Party	Feb 1	1400Z	Feb 1	2400Z	<a href="#">Rules</a>
British Columbia QSO Party	Feb 1	1600Z	Feb 2	2400Z	<a href="#">Rules</a>
North American Sprint, CW	Feb 2	0000Z	Feb 2	0359Z	<a href="#">Rules</a>
CQ WW RTTY WPX Contest	Feb 8	0000Z	Feb 9	2400Z	<a href="#">Rules</a>
ARRL School Club Roundup	Feb 10	1300Z	Feb 14	2359Z	<a href="#">Rules</a>
<b>ARRL Inter. DX Contest, CW</b>	Feb 15	0000Z	Feb 16	2400Z	<a href="#">Rules</a>
CQ 160-Meter Contest, SSB	Feb 21	2200Z	Feb 23	2159Z	<a href="#">Rules</a>
South Carolina QSO Party	Feb 22	1500Z	Feb 23	0159Z	<a href="#">Rules</a>
North American QSO Party, RTTY	Feb 22	1800Z	Feb 23	0600Z	<a href="#">Rules</a>
North Carolina QSO Party	Feb 23	1500Z	Feb 24	0100Z	<a href="#">Rules</a>
<b>ARRL Inter. DX Contest, SSB</b>	Mar 1	0000Z	Mar 2	2400Z	<a href="#">Rules</a>
Open Ukraine RTTY Championship	Mar 1	1800Z	Mar 2	1359Z	<a href="#">Rules</a>
YB DX RTTY Contest	Mar 8	0000Z	Mar 8	2359Z	<a href="#">Rules</a>
Oklahoma QSO Party	Mar 8	1400Z	Mar 9	2100Z	<a href="#">Rules</a>
Stew Perry Topband Challenge	Mar 8	1500Z	Mar 9	1500Z	<a href="#">Rules</a>
Idaho QSO Party	Mar 8	1900Z	Mar 9	1900Z	<a href="#">Rules</a>
North American Sprint, RTTY	Mar 9	0000Z	Mar 9	0359Z	<a href="#">Rules</a>
Wisconsin QSO Party	Mar 9	1800Z	Mar 10	0100Z	<a href="#">Rules</a>
BARTG HF RTTY Contest	Mar 15	0200Z	Mar 17	0200Z	<a href="#">Rules</a>
Russian DX Contest	Mar 15	1200Z	Mar 16	1200Z	<a href="#">Rules</a>
Virginia QSO Party	Mar 15	1400Z	Mar 16	2400Z	<a href="#">Rules</a>
North American SSB Sprint Contest	Mar 23	0000Z	Mar 23	0400Z	<a href="#">Rules</a>

-[Contest data courtesy of the [WA7BNM Contest Calendar](#) ]